

REMARKS

This Amendment and Request for Reconsideration is filed in response to the Office Action mailed on 6 December 2006 for the above-referenced patent application. In the present Amendment, claims 1 and 2 have been amended; no claims have been canceled or added.

The Applicants respectfully submit that no new matter has been entered by such amendment; the amended limitations are fully supported by the application as originally filed. In the amendment of independent claim 1, the limitations of dependent claim 2 have merely been incorporated into independent claim 1. Therefore, no new issues have been presented by the present amendment.

In the Office Action mailed on 6 December 2006, the Examiner confirmed the restriction requirement associated with Group I claims 1-13 (method of making a read head) and Group II claims 14-21 (method of forming a read sensor for a magnetic head). In response, the Applicant continues to disagree with the restriction requirement for reasons already stated.

Again, withdrawn independent claim 14 has limitations of substantially the same scope as (but narrower than) elected and allowed claim 22. See the Table below for comparison.

Claim 22 (Elected/Allowed)	Claim 14 (Withdrawn)
22. (Original) A method for use in making a read head, comprising:	14. (Withdrawn) A method of for use in making a magnetic read head, comprising:
forming a read sensor which is abutted by longitudinal bias layers;	forming a plurality of read sensor layers over a wafer; forming a photoresist over the read sensor layers in a central region; with the photoresist in place: ion milling so that read sensor layers in side regions are removed to thereby form the read sensor only in the central region;

	depositing the longitudinal layers in the side regions; depositing a silicon layer over the longitudinal bias layers in the side regions; removing the photoresist; and
selectively depositing lead layers over the longitudinal bias layers with use of a silicon reduction process and a hydrogen reduction process, the silicon reduction process comprising the further acts of:	selectively depositing lead layers over the longitudinal bias layers with use of a silicon reduction process and a hydrogen reduction process, the silicon reduction process comprising the further acts of:
depositing a silicon reactant layer over the longitudinal bias layers; and	depositing a silicon layer over the longitudinal bias layers in the side regions;
passing a carrier gas which includes lead layer material so that the carrier gas is chemically reduced by the silicon.	passing a carrier gas which includes lead layer material so that the carrier gas is chemically reduced by the silicon.

As apparent, limitations of elected and allowed claim 22 and withdrawn claim 14 are substantially the same in many respects. Clearly, it makes no sense to maintain the restriction of claims 14-21.

Based on the above, the Applicant respectfully requests the Examiner to withdraw the requirement for restriction and include claims 14-21 in the present application, and to further allow claims 14-21 as being further limiting than allowed claim 22.

In the same Office Action, the Examiner finally rejected claims 1-4 under 35 U.S.C. § 103(a) based on Lin (U.S. Patent No. 5,949,623) in view of Tanaka et al. (U.S. Patent No. 6,617,265) and further in view of Nachtman (U.S. Patent No. 3,152,886). Also in the Office Action, the Examiner maintained the indication of allowable subject matter in claims 5-13 and 22-33.

In response, the Applicant respectfully acknowledges the Examiner's indication of allowability of claims 5-13 and claims 22-33 and submit that the invention as defined by such claims should be broadly protected as warranted by law. Further, the Applicant

respectfully requests the Examiner to withdraw the requirement for restriction and include claims 14-21 in the present application, and to further allow claims 14-21 as being further limiting than allowed claim 22.

In addition, the Applicant respectfully disagrees with the continued rejection of claims 1-4 under 35 U.S.C. § 103(a). For a proper rejection under 35 U.S.C. § 103, the prior art in combination must teach or suggest each and every limitation of the claims. In addition, there must be some adequate suggestion or motivation to combine the teachings of the prior art references.

In the present case, the cited references in combination fail to teach or suggest each and every limitation of the claims. Specifically, the cited references in combination fail to teach or suggest the step of *“depositing lead layers selectively over the longitudinal bias layers, without a resist formed over a trackwidth region of the read sensor and without depositing lead layers over the trackwidth region, with use of a silicon reduction process and a hydrogen reduction process.”*

In Lin, lead layers are deposited in full film over longitudinal bias layers and over the trackwidth region of the read sensor; there is no selective deposition of materials. See e.g. FIGs. 5, especially FIG. 5a of the Lin reference.

Further, the Examiner’s rejection of dependent claim 2 (limitations of which are now incorporated in independent claim 1) is confusing at best. In such rejection, the Examiner makes reference to “column 7 at lines 58-60+” which describes the method of FIG. 5 of the Lin reference. There, any lack of use of the photoresist over the trackwidth region of the sensor in the Lin reference is not used together with any previous step of “forming a read sensor which is abutted by longitudinal bias layers.” Therefore, the Examiner’s rejection of dependent claim 2 (limitations of which are now incorporated in independent claim 1) fails.

In Nachtman, techniques for reduction of metals are discussed but no teachings of selective deposition over particular locations of a read sensor structure without resist formation are disclosed. In addition, Nachtman does not teach the use of both a silicon reduction process and a hydrogen reduction process in the selective deposition of

materials. With respect to this deficiency, Nachtman discusses that at least four direct methods “might” accomplish its stated desired to reduce molybdenite to metal: I. Thermal decomposition; II. Hydrogen reduction; III. Carbon reduction; and IV. Silicon reduction. See e.g. column 1 of Nachtman. However, Nachtman goes on to describe that the use of silicon reduction for such purposes is undesirable since “[h]owever, silicon reacts with molybdenum to form a refractory silicide. Carbon also forms a refractory carbide with molybdenum, and this method also is found wanting” (see e.g. column 1 at lines 42-43 of Nachtman). Thus, Nachtman does not teach the use of both silicon reduction process and hydrogen reduction process for the deposition of lead layers, but rather only that “sulfides of molybdenum may be subjected to direct reduction by lead or tin in a non-oxidizing atmosphere, as for example in the presence of a non-oxidizing gas, e.g., hydrogen, helium or argon, or mixtures thereof (see e.g. column 2 at lines 32-36 of Nachtman). As apparent, Nachtman teaches away from use of a silicon reduction process for such purposes. Thus, there is no teaching or suggestion of the “selective deposition” step as recited to construct that which is claimed.

Since the prior art fails to teach or suggest all of the claim limitations and render the invention obvious, the Applicant respectfully requests the Examiner to withdraw all rejections of claims and allow the present application.

The Applicants respectfully request entry of the amendment and reconsideration of all pending claims. The Applicants respectfully submit that the application as amended is now in a condition suitable for allowance.

Thank you. The Examiner is invited to contact the undersigned if necessary to expedite allowance of the present application.

Respectfully Submitted,



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